

Fisheries and Aquatics Bulletin

Fisheries: Aquatic and Endangered Resources Program (FAER)

The Program Coordinator's Desk

BASIS Plus - Fisheries and Aquatic Resources?!? Most of you have been quite busy during the past few weeks developing, writing, and inputting projects, tasks and subtasks information into BASIS. This is in keeping with the new Bureau model, whereby all project funds must now be aligned with one or more of the Bureaus' National Programs. Likewise, Program Coordinators have been busy in reviewing and commenting on hundreds of tasks and subtasks. Now that this major phase of BASIS is finalized, I wish to extend my personal gratitude to each of you for your dedication and scientific professionalism for implementing the Fisheries and Aquatic Resources data into BASIS. Granted, this was not an easy job, but a job Well Done! Thanks!

Dr. Ron Kirby's Farewell

Your editor asked whether I might have a few words for the Bulletin as I rotate out of a 66-day detail as Acting Chief Scientist for Biology in Reston. Several things come to mind. First, there is nothing to recommend a 3,000 mile commute, twice a week, from the west coast to the east coast and back. On the other hand, it has been a real joy to participate with the Reston Science staff in developing the Biological Discipline's programs, to be spokesperson for the excellent work done not only in Reston but also in the field, and to interact with peers in the other disciplines as we iterate our planning processes. Most importantly, however, this assignment has given me both the opportunity and the need to look across all of our activities in USGS and as such, has given me a tremendously enhanced perspective of the sum of our science programs. From the above, I draw two conclusions I think

worthy of the concern of the readers of this Bulletin. First, do not underestimate the good you can do by taking your science "on the road" get out in the world and explain to others what you are doing, why you are doing it, and who will benefit. Presentations to the science staff in Reston are always appreciated. Presentations to our collaborators and partners and to the entire Reston staff in larger seminars are yet another venue to get the word out about our excellent science.

Finally, there is no way to overestimate the value you might receive personally, by seeing the science program from the other side. By that I mean the side where policy, politics, long-range planning, and the mechanisms of running the Department's Science Bureau come together, all with tight deadlines. The enhanced perspective you will receive after spending time with your excellent compatriots in Reston will be invaluable to you in developing research plans for the future, obtaining a fresh perspective on priorities, and developing means to integrate your work with other work in the Bureau. Best of all, the Reston staff are an excellent group with whom to work. You will enjoy an assignment here. Volunteer yourself. And remember; take a snack for the plane ride. There is no such thing as airline food (perhaps always an oxymoron) any more.

FAB (Fisheries and Aquatics Bulletin) Development and Contributions

Carol Ann Woody (ASC-detail to HQ), **Robin Schrock** (WFRC-CRRL), and **Debbie Barthello** (HQ) are commended for their efforts and hard work in publishing this edition of FAB. Thanks to all the scientists who contributed articles and information to this edition. Remember, the FAB is a great venue to publish your fisheries and aquatic resource articles and snippets of interest to gain national exposure. Jim Preacher, FAER Program Coordinator.

Welcome

Carol Ann Woody will be at the USGS Reston office for an 8-week detail assisting with the Fisheries: Aquatic and Endangered Resources Program 5 year plan. Carol Ann is a fisheries research biologist with the Alaska Science Center in Anchorage Alaska. A special thanks to Bill Seitz, Director of the Alaska Science Center for supporting Carol Ann's detail.

Opportunity for FAER Scientists

Share your research with the Nation.

Submit a Fact Sheet of current research and we will post the Fact Sheet and disseminate the information in briefings from the Fisheries: Aquatic and Endangered Resources Program. Submit your Fact Sheet to: dmbarth@usgs.gov . For examples see: <http://www.usgs.gov/visual-id/specs/factsheets/fscolor.html>

Invasive Species Program Biologist – GS

11/12 needed in Reston. Apply for this exciting position to share your expertise and gain valuable experience with this important program. The job is listed as Program Assistant to the Invasive Species Program Biologist in the Biological Resources Office in Reston. Position and application information available at: <https://oars.er.usgs.gov>.

Science Seminars

Dr. Carol Ann Woody, Alaska Science Center, Anchorage

Carol Ann recently gave seminars on her sockeye salmon research program to the Reston Science Staff and the DOI Science Staff in D.C. Her cooperative research program focuses on declining sockeye salmon populations in Alaska, especially in the Kvichak (Queen-jack) River watershed, Alaska. The decline appears related to climate and fishery management changes and has negatively impacted subsistence, commercial and sport fishers.



Alaskan sockeye salmon on their spawning run.

The diverse research focuses on: abundance and trend monitoring; lake core sediment analysis to determine historic salmon abundance patterns (see picture below); identification and mapping of critical spawning habitat, and genotyping of Lake Clark originating fish. The research program is geared toward providing managers with better scientific data with which to make hard conservation decisions.

A Fisheries Internship Program was also initiated as part of this program to train local youth to work on the project and to, hopefully, recruit them to the field of fisheries science.

For further information on this research go to: <http://www.absc.usgs.gov/research/Fisheries/LakeClark/overview.htm>



Researchers collect sediment cores through the ice at Lake Clark National Park and Preserve.

Meeting Announcements:

The Society for Conservation Biology will meet on the shores of beautiful Lake Superior, 28 June - 2 July 2003 in Duluth, Minnesota, USA. The meeting's theme, "**Conservation of Land and Water Interactions**", will focus attention on water, forests, wetlands, the Great Lakes and other large lakes and rivers of the world, marine and coastal systems, and associated biodiversity issues. For more information:

www.d.umn.edu/ce/conferences/scb2003/home.htm.

The American Fisheries Society will focus on "**Propagated Fish in Resource Management**" June 16 to 18, Boise, Idaho. Symposia range from "Decision Making and Risk Evaluation in Fish Stocking" to "Natural Systems and Imperiled Species in Turmoil - Resilience to Exotics and Nuisances". More information may be found at: <http://www-heb.pac.dfo-mpo.gc.ca/congress/pfirm/>

The American Fisheries Society annual meeting in Quebec City, Quebec, Canada, August 10-14, 2003. This year's meeting theme is "**Worldwide Decline of Wild Fish Populations**" see <http://fisheries.org> for details.

World Summit on Salmon will be at Simon Fraser University, Jun 10-13 in Burnaby, B.C. Canada. This international event will focus on wild salmon problems and conservation strategies. For information see: http://www.sfu.ca/cstudies/science/Salmon_flyer.pdf



28th Annual Eastern Fish Health Workshop.

April 21 – 25, Gettysburg, PA

Important informative sessions such as:

Aquarium Health, Coral Reef studies, Spring Viremia of Carp, Warmwater fish vaccination, and Fish Health and the Great Lakes will be covered. For more information visit:

<http://www.lsc.usgs.gov/fhb/workshops/28/28fhw.asp>

FISHY FEATURES

Full Moon, High Tide must be...

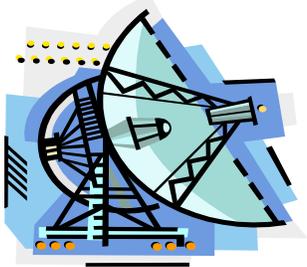
Horseshoe Crab Spawning Season!

Horseshoe crabs are "living fossils", relicts from an ancient class of arthropods, most of which went extinct hundreds of millions of years ago. Each spring, they spawn billions of eggs on sandy shores like Delaware Bay, providing vital nourishment for hundreds of thousands of migrating shorebirds and juvenile fishes. Horseshoe crab blood is used to produce pharmaceuticals to test for human pathogens. They are also used as bait in the American eel and whelk fisheries. Concern about a potential decline in the species led to a Chesapeake Bay tagging study to increase our understanding of horseshoe crab migration, survival, and abundance. Thousands will be tagged and released from boats prior to the spawning season. Recaptures of tagged horseshoe crabs will help identify subpopulations, estimate total numbers that spawn in a given year, and estimate interannual survival. Visit Leetown's great website at <http://www.lsc.usgs.gov/aeb/2065/>



FY 2004 Budget for USGS: Increases for Biology

The FY 2004 budget total proposes a net increase of 28.2 million above the FY 2003 request. Programs that directly support science-based land and natural resource management by the Department will see increases. Focuses for 2004 include: invasive species, energy resource assessments, water availability, coastal landscape change and monitoring. Invasive species will see an increase of \$3.0 million to develop models for a national early warning detection network. Such a system could be invaluable to land management agencies in determining appropriate strategies for controlling or eradicating invasive plants and animals. The FY 2004 budget also proposes funding of \$4.0 million to allow for conversion from wideband radio to digital narrowband radios as mandated by Federal law. These radios are used in natural hazards networks, radio-telemetry for fish and wildlife studies and global positioning satellites. The USGS proposes funding of \$1.0 million to expand research human health-wildlife disease node on the NBII, and increasing information available on invasive species. Other related core programs that would see increases include mapping with an increase of \$3.0 million for America View for better public access to remotely sensed data, and \$0.8 million for the Urban Dynamics Program to better understand urbanization and its impacts on the surrounding environment.



Cooperative Research for White Sturgeon Conservation in Idaho



The Idaho Dept. of Fish and Game and USGS are working together to evaluate Kootenai River flow regime and hydraulic characteristics to assess the relation between stream-flow regimes and white sturgeon spawning patterns.

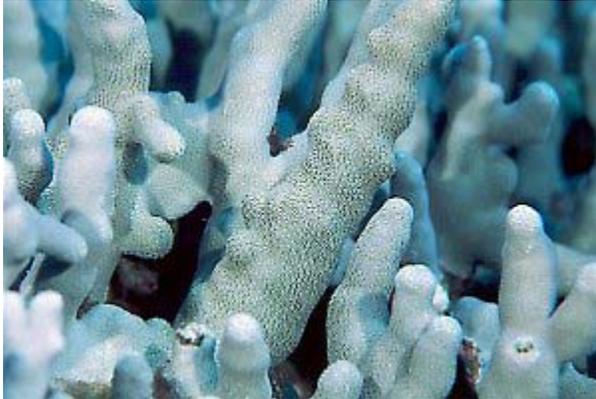
The principal objective of the proposed study is to evaluate stream flow characteristics and then develop computer surface-water flow models to relate to white sturgeon spawning patterns. Thus far, survey benchmarks are established, river bathymetry surveyed, and stream-flow and high water measurements documented. These and future hydrologic data collections will be used to calibrate the stream flow model for the final assessment. Stay tuned for further updates.

Coral Studies in West Virginia?

Frank M. Panek, Leetown Science Center

Leetown researchers have capitalized on underused greenhouse space and local hard water to create an ideal environment for culture of reef organisms. Because Leetown is far from the tropics, studies can be conducted with little or no risk of escapement. Last August a 2,750 gal culture system was installed and stocked with a wide diversity of coral invertebrates and several plant species. Several species are now reproducing in the system. This success has led to construction of another greenhouse, which will be used for studies of turtle grass and associated organisms

such as *Labyrinthula* (a fungus that causes fish lesions in Chesapeake Bay). In addition, four 250 gal tanks will be used to propagate corals to study effects of salinity gradients, temperature effects, high nutrient loads and herbicides.



A finger coral.

[British Columbia Atlantic Salmon Farms Hard Hit by IHN Virus](#)

Infectious hematopoietic necrosis, or IHN, is a serious problem for many fish farmers and hatcheries throughout the world. It is a highly infectious rhabdoviral disease that affects important species of salmonids and other marine species. IHN affects both wild and cultured stocks but under high density aquaculture significant fish losses can occur at nearly all stages of production. Unfortunately, there is no proven, accepted and cost-effective method for its prevention or treatment. Recently, Atlantic salmon ranchers in B. C., Canada lost millions of dollars worth of fish, with the hardest hit region being on Vancouver Island. Wild Pacific salmon, in particular sockeye salmon, appear to be the original source of the disease. Research into possible treatments includes vaccine development and a study by the USDA to develop a genetic linkage map to locate molecular marker(s) that confer resistance to IHN. Theoretically, selective breeding could be used to increase resistance to IHN if the linkage mapping is successful.

Fishy Reading

Fantastic Fish of the Middle Ages is replete with aquatic creatures of the Middle Ages, which populated both the waters and the imagination of the Medieval world. Originally from Lawrens Andrewe's *"The noble lyfe & nature of man, Of bestes, serpentys, fowles & fisshes y be moste knowen"* and reprinted in *The Boke of Nurture* by Frederick J. Furnivall, 1894 it makes it's 21st century debut as "Fantastic Fish of the Middle Ages" by James L. Matterer. Following is an excerpt on eels.

Anguilla



Anguilla the Ele is lyke a serpent of fascyon, & may leue eight yere, & without water vi. dayes whan the wind is in the northe / in the winter they wyll haue moche water, & that clere / amonge them is nouthr male nor female / for they become fisshes of the slyme of other fisshes / they must be flayne / they suffer a longe dethe / they be best rosted, but it is longe or they be ynouge / the droppinge of it is gode for paines in the eares.

Translation, for those who forgot their old English.

Anguilla the eel is fashioned like a serpent, and may live eight years, and when the wind is in the north they may live without water 6 days.

In the winter they need much clear water. Among them is neither male nor female, for they are born out of the slime of other fish. Their skin must be taken off and they take a long time to die. They are best roasted, but for a long time or they won't be done. Eel grease is good for pains in the ears.

(Hmmmmmmmmmmm. I wonder if it works for pains in the neck?! editor)

[Illustrated Field Guide for Assessing External and Internal Anomalies in Fish](#)

USGS Information and Technology Report
ITR-2002-0007

This is a terrific guide for biologists and aquaculturists that need to monitor and assess exposure of fish to environmental contaminants and other stressors. Proper fish handling and examination, as well as tissue sample collection, storage and shipping are covered. Suggested equipment, data sheets, and documentation are also included. Full color photos (not to be viewed during lunch) make identification more straightforward and anatomy diagrams assist with taxonomic identification.

The State of World Fisheries Report

Released in 2002 by the FAO. A must read for all fisheries professionals. Gain a global perspective in fisheries at:

<http://www.fao.org/docrep/005/y7300e/y7300e00.htm>

INs & OUTs

Great Lakes Science Center has a new Center Director:

We welcome **Dr. Leon M. Carl** as the new Center Director for the Great Lakes Science Center in Ann Arbor, Michigan. Dr. Carl reported to duty in Ann Arbor on March 3, 2003. He comes from Trent

University in Ontario, Canada, where he has served as Director of the Watershed Science Centre since 1998.

Dr. Carl received his Ph.D. in 1980 in Natural Resources from the University of Michigan. He also holds a B.S. in Fisheries Biology (1974) and M.S. in Fisheries Management (1976), both from the University of Michigan. Dr. Carl's professional career spans more than 20 years as a State and Provincial research scientist and fisheries manager. His publication record includes scientific and technical papers on fish biology, fisheries, ecology, and fisheries management. Please join me in welcoming Leon to the BRD family. He can be reached at lcarl@usgs.gov or (734) 214-7200.

Frank Shipley departs Western Fisheries Research Center (WFRC):

Center Director **Frank Shipley** recently accepted a new position as the Deputy Regional Biologist at the Western Regional Office. In that capacity, he will report to the Regional Executive for Biology, Anne Kinsinger. He now has the responsibility of overseeing the biological aspects of all 6 Western Regional Science Centers. We will all miss Frank's great talents, dedication, and vision in leading WFRC, but look forward to that same level of motivated talent at all 6 of the Western Research Centers.

Acting Director at Western Fisheries Research Center:

Lyman Thorsteinson has been named the Acting Center Director for WFRC during the interim period until a new Center Director is named. With his vast Assistant Center Director skills and multi-Center experience, Lyman will keep WFRC progressing at a solid, acceleratory pace.

